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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,429	09/22/2003	Makoto Kubota	03500.017562	6520

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EXAMINER	
KOSLOW, CAROL M	
ART UNIT	**PAPER NUMBER**
1755	

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/665,429	KUBOTA ET AL.	
	Examiner	Art Unit	
	C. Melissa Koslow	1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 2-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 2-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 14 June 2006 has been entered.

The amendment to claim 5 has overcome the 35 USC 112 rejection over that claim. Applicant's arguments with respect to the remaining rejections have been fully considered but they are not persuasive.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,203,608 in view of U.S. patent 5,244,742.

U.S. patent 6,203,608 teaches piezoelectric films, such as lead titanate zirconate based films, produced by forming a sol-gel composition which comprises a dispersoid obtained from organometallic compounds, applying this composition onto a substrate, drying and baking the film. The reference teaches mixing the raw organometallic compounds and purifying them. The reference teaches the compounds and the composition should be high purity and that it can be purified using conventional methods, such as those used by applicants (col. 4, lines 52-57). Applicants specification shows that these processes will produce composition where the total content of elemental halogen, halogen ions and halogen compounds falls within the claimed ranges. While U.S. patent 6,203,608 does not teach using a plurality of these conventional purification steps, U.S. patent 5,244,742 teaches that to form highly pure PZT sol-gel

composition, conventional purification steps can be repeated or used in combination (col. 2, lines 20-22). Therefore one of ordinary skill in the art would have found it obvious to repeat or to use combinations of purification operations taught by U.S. patent 6,203,608 to ensure a highly pure sol-gel composition. The multiple purification steps must occur at different time. While the patents do not teach purifying the solvent and water used the taught processes, it is common laboratory procedure and practice to also purify any solvents and water used in a process, if they do not already have a high purity, when producing a high purity final product, especially when the other raw materials are highly pure. This is done to prevent any impurities that may be present in the solvent and water from being introduced into the final product. Therefore, one of ordinary skill in the art would have found it obvious to purify the water and the organic solvents used in the process of U.S. patent 6,203,608, by known purification methods and multiple times, to ensure a highly pure sol-gel composition. The references suggest the claimed process.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,203,608.

This reference teaches piezoelectric films, such as lead titanate zirconate based films, produced by forming a sol-gel composition which comprises a dispersoid obtained from organometallic compounds, applying this composition onto a substrate, drying and baking the film. The reference teaches mixing the raw organometallic compounds and purifying them. The reference teaches the compounds and the composition should be high purity and that it can be purified using conventional methods, such as those used by applicants (col. 4, lines 52-57). Applicants specification shows that these processes will produce composition where the total content of elemental halogen, halogen ions and halogen compounds falls within the claimed

ranges. The taught film is used in piezoelectric devices, such as oscillation elements and filters which have the structure of claim 6. While the patent does not teach purifying the solvent and water used the taught processes, it is common laboratory procedure and practice to also purify any solvents and water used in a process, if they do not already have a high purity, when producing a high purity final product, especially when the other raw materials are highly pure. This is done to prevent any impurities that may be present in the solvent and water from being introduced into the final product. Therefore, one of ordinary skill in the art would have found it obvious to purify the water and the organic solvents used in the process of U.S. patent 6,203,608, by known purification methods, to ensure a highly pure sol-gel composition. While the reference does not teach multiple purification processes, as claimed, device claims 6 and 7 are product-by-process claims. This process limitation does not distinguish the claimed devices over those taught. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The reference suggests the claimed device.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,203,608 as applied to claim 6 above, and further in view of U.S. patent 6,247,799.

As stated above, U.S. patent 6,203,608 suggests oscillation elements comprising a piezoelectric layer having the claimed purity. It does not teach the devices in which such elements are used. U.S. patent 6,247,799 teaches such devices are commonly used ink jet

recording heads, which conventionally have the claimed structure. Therefore one of ordinary skill in the art would have found it obvious to use the oscillation element of U.S. patent 6,203,608 as the oscillation element in conventional ink jet recording heads, as described in U.S. patent 6,247,799. While the reference does not teach multiple purification processes, as claimed, device claim 8 is product-by-process claims. This process limitation does not distinguish the claimed devices over those taught. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The reference suggests the claimed device.

Applicants' only argument with respect to the rejections is that they request authority to support the statement that it is common laboratory procedure and practice to purify any solvents and water used in a process, if they do not already have a high purity, when producing a high purity final product, especially when the other raw materials are highly pure and that this is done to prevent any impurities that may be present in the solvent and water from being introduced into the final product. Applicants' request is not an adequate traversal, as required by MPEP 2144.03(C) since it does not state why this fact is not considered to be common knowledge and/or well known in the art. In addition, the explanation as to why it is common laboratory procedure and practice to purify any solvents and water used in a process, if they do not already have a high purity, when producing a high purity final product, especially when the other raw materials are highly pure is sufficient to meet the requirements of MPEP 2144.03(A), as

discussed in MPEP 2144.03(B). With respect to the rejections over claims 6-8, there has been no showing that the ceramic of U.S. patent 6,203,608 does not have a halogen purity that falls within or overlaps the claim range. The rejections are maintained.

Applicants are directed to the Hawley's Condensed Chemical Dictionary, 12th ed., definition of reagent, which includes the solvents and water used in chemical reaction. The definition for laboratory reagents state the reagent must have high purity. This definition supports the Examiner's contention with it is known to use high purity water and solvents used in reactions and that it would have been obvious to purify them if they do not have a high purity.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
July 14, 2006

C. Melissa Koslow
Primary Examiner
Tech. Center 1700